

**REMARKS**

Claims 1-16 are pending. Claims 1-16 stand rejected.

**Rejections Under 35 U. S.C. § 112**

The Office Action at page 2, paragraph 2 sets forth, "claims 1-16 are rejected under 35 U.S.C. 112, second paragraph." Specifically, the Examiner suggests "It is not clear which element, 'electrodes' or 'edges' is modified by the phrase 'along said longitudinal width'...." Applicants have amended independent claims 1, 6 and 11 to clear up any ambiguity. Therefore, applicants respectfully request that the rejection of claims 1-16 under 35 U.S.C. § 112, second paragraph, be withdrawn.

The Office Action at page 2, paragraph 4 sets forth, "claims 1-16 are rejected under 35 U.S.C. 112, first paragraph." Specifically, the Examiner suggests "There is no description for the electrodes to extend to opposite edges [of the substrate]." Applicants have amended independent claims 1, 6 and 11 to clear up any ambiguity in the claims with respect to the electrodes. These amended claims are fully supported by the specification as filed, for example at page 3, line 22 through page 4, line 23 and Fig. 1. Therefore, applicants respectfully request that the rejection of claims 1-16 under 35 U.S.C. § 112, first paragraph, be withdrawn.

**Rejections Under 35 U. S.C. § 102**

The Office Action at page 3, paragraph 6 sets forth, "claims 1, 6, 7, 9-11, and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Edwards, Jr. et al." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

Applicants' invention, as recited in claim 1 (as amended), includes features which were neither disclosed or suggested by Edwards, Jr., namely:

...a pair of electrodes disposed on said substrate, said pair of electrodes being disposed on both end portions of said substrate along said width ...

...a resistor element disposed between said pair of electrodes, said resistor element comprising side sections, each of said side sections connected to each of said pair of electrodes along a substantial portion of a length of said pair of electrodes along said width...  
(Emphasis added)

These features are described in applicants' specification, for example, at page 3, line 22 through page 4, line 23.

According to claim 1, the side sections of the resistor element are connected to the pair of electrodes along a substantial portion of the length of the pair of electrodes along the width of the substrate. In addition, an S-shaped section disposed between said side sections is free of a trimming portion.

Edwards, Jr. is relied upon as "[disclosing] at Fig. 1 ... S-shaped section 24 having side sections at the ends, and electrodes 22." Office Action at page 3, paragraph 6. Edwards, Jr. does not disclose or suggest, however, that the side sections of the resistor element are connected to the pair of electrodes along a substantial portion of the length of the pair of electrodes along the width of the substrate.

In contrast, Applicants' invention, as recited in amended claim 1, requires that the side sections of the resistor element are connected to the pair of electrodes along a substantial portion of the length of the pair of electrodes along the width of the substrate.

It is because Applicants have included the feature of side sections of the resistor element connected to the pair of electrodes along a substantial portion of the length of the pair of electrodes along the width of the substrate, that applicants are able to provide a resistor having greater surge voltage capability

and increased accuracy. Edwards, Jr. does not achieve this advantage because Edwards, Jr. has a resistive element connected to a small portion of the electrode at an end of the resistive element.

For the reasons set forth above, claim 1 is neither disclosed nor suggested by Edwards, Jr. et al. Therefore, claim 1 is not subject to rejection under 35 U.S.C. §102(b) as being anticipated by Edwards, Jr. Applicants respectfully request that the rejection be withdrawn and the claim allowed.

Although not identical, claims 6 and 11 recite features similar to those of claim 1 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 1.

Further, claims 7, 9-10 and 13-16 ultimately depend upon either claim 1, 6 or 11 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 1, 6, and 11.

The Office Action at page 3, paragraph 7 sets forth, "claims 1-2, 4, 6-7, 9-11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mizukoshi et al." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

Mizukoshi is relied upon as "[disclosing] at Figs. 1 and 4 ... the S-shape having side sections at the ends, and electrodes 3, 4." Office Action at page 3, paragraph 7. Mizukoshi does not disclose or suggest, however, that the side sections of the resistor element are connected to the pair of electrodes along a substantial portion of the length of the pair of electrodes along the width of the substrate. Thus, Mizukoshi does not anticipate applicants' invention as recited in claim 1. Therefore, applicants respectfully request that the rejection of claim 1 as being anticipated by Mizukoshi be withdrawn and the claim allowed.

Although not identical, claims 6 and 11 recite features similar to those of claim 1 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 1.

Further, claims 2, 4, 7, 9-10 and 13 ultimately depend upon either claim 1, 6 or 11 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 1, 6, and 11.

The Office Action at page 3, paragraph 8 sets forth, "claims 1-2, 6-7, 11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Collins." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

Collins is relied upon as "[disclosing] ... at Figs. 3 ... the S-shape R having side sections at the ends, and electrodes 32e, and 31e." Office Action at page 3, paragraph 8. Collins does not disclose or suggest, however, that the side sections of the resistor element are connected to the pair of electrodes along a substantial portion of the length of the pair of electrodes along the width of the substrate. Thus, Collins does not anticipate applicants' invention as recited in claim 1. Therefore, applicants respectfully request that the rejection of claim 1 as being anticipated by Collins be withdrawn and the claim allowed.

Although not identical, claims 6 and 11 recite features similar to those of claim 1 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 1.

Further, claims 2, 7 and 13 ultimately depend upon either claim 1, 6 or 11 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 1, 6, and 11.

The Office Action at page 4, paragraph 9 sets forth, "claims 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Kambara et al." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

Applicants' invention, as recited in claim 11 (as amended), includes features which were neither disclosed or suggested by Kambara, namely:

... a resistor element situated between said pair of electrodes, said resistor element including a pair of side sections, each of said side sections connected to a respective one of said pair of electrodes along a substantial portion of a length of said pair of electrodes along said width...

... a width of said S-shaped section along said length of said substrate is less than a width of each of said side sections along said length of said substrate. (Emphasis added)

These features are described in applicants' specification, for example, at page 3, line 22 through page 4, line 23.

According to claim 11, a resistor element is situated between a pair of electrodes, and the resistor element includes a pair of side sections, each of the side sections connected to a respective one of said pair of electrodes along a substantial portion of a length of the pair of electrodes along the width of the substrate. In addition, the width of the S-shaped section along the length of said substrate is less than the width of each of the side sections along the length of said substrate.

Kambara is relied upon as "[disclosing] the claimed invention at Fig. 10. The side sections are 2d'' where there is at least an S section 2a'' between two of said side sections..." Office Action at page 4, paragraph 9. Kambara does not disclose or suggest, however, that i) the resistor element includes a pair of side sections where the side sections are connected to the pair of electrodes along a substantial portion of a length of the pair of electrodes along the width of the substrate or ii) the width of the S-shaped section along the length of the substrate is less than the width of each of the side sections along the length of said substrate.

In contrast, Applicants' invention as recited in claim 11, requires that i) the resistor element include a pair of side sections where the side sections of the

resistor element are connected to respective ones of the pair of electrodes along a substantial portion of a length of the pair of electrodes along the width of the substrate and ii) the width of the S-shaped section along the length of the substrate is less than the width of each of the side sections along the length of said substrate.

It is because Applicants have included the features of i) the resistor element including a pair of side sections where the side sections of the resistor element are connected to the pair of electrodes along a substantial portion of a length of the pair of electrodes along the width of the substrate and ii) the width of the S-shaped section along the length of the substrate is less than the width of each of the side sections along the length of said substrate, that applicants are able to provide a resistor having greater surge voltage capability and increased accuracy. Kambara does not achieve this advantage because Kambara has a resistive element connected to a small portion of the electrode at an end of the resistive element.

For the reasons set forth above, claim 1 is neither disclosed nor suggested by Kambara. Therefore, claim 1 is not subject to rejection under 35 U.S.C. §102(e) as being anticipated by Kambara. Applicants respectfully request that the rejection be withdrawn and the claim allowed.

Claims 12-14 ultimately depend upon either claim 11 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 11.

#### **Rejections Under 35 U. S.C. § 103**

The Office Action at page 4, paragraph 11 sets forth, "claims 1-11 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solow in view of Collins." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

Solow is relied upon as "[disclosing] electrodes 20, trim cut 40 in a wider rectangular portion ... and resistor 14 comprising an S-shaped section." Office Action at page 5, paragraph 11. Solow does not disclose or suggest, however, that the side sections of the resistor element are connected to the pair of electrodes along a substantial portion of the length of the pair of electrodes along the width of the substrate. Thus, Solow fails to make up or the deficiencies of Collins discussed above with respect to the 35 U.S.C. §102(b) rejection above as it relates to claim 1. Therefore, applicants respectfully request that the rejection of claim 1 as being unpatentable over Solow in view of Collins be withdrawn and the claim allowed.

Although not identical, claims 6 and 11 recite features similar to those of claim 1 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 1.

Further, claims 2-5, 7-10 and 13-14 ultimately depend upon either claim 1, 6 or 11 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 1, 6, and 11.

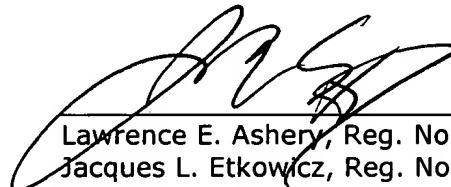
The Office Action at page 5, paragraph 12 sets forth, "claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solow in view of Collins, further in view of Coates, Cook, Jr. Johnston, Croset et al. or Jenkins." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

Coates, Cook, Jr. Johnston, Croset et al. and Jenkins ("the noted secondary art") are relied upon as "[disclosing] a single S-section in the middle of the [resistor] pattern." None of this "noted secondary art" discloses or suggests, however, that i) the resistor element includes a pair of side sections where the side sections are connected to the pair of electrodes along a substantial portion of a length of the pair of electrodes along the width of the substrate or ii) the width of the S-shaped section along the length of the substrate is less than the width of each of the side sections along the length of said substrate. Thus, the "noted

secondary art" fails to make up or the deficiencies of Solow and Collins discussed above. Therefore, applicants respectfully request that the rejection of claims 15-16 as being unpatentable over Solow in view of Collins and further in view of Coates, Cook, Jr. Johnston, Croset et al. or Jenkins be withdrawn and the claims allowed.

In view of the remarks set forth above, Applicants submit that the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully Submitted,

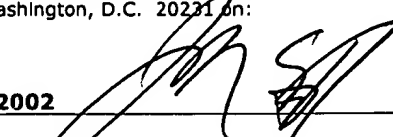
  
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Enclosures: Version With Markings To Show Changes Made

Dated: October 8, 2002

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The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. <b>18-0350</b> of any fees associated with this communication.	I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on:   <b>October 8, 2002</b>
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**VERSION WITH MARKINGS TO SHOW CHANGES MADE****IN THE CLAIMS:**

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TECHNOLOGY CENTER 2800

1           1.       (Three Times Amended) A resistor comprising:  
2           a substrate having a longitudinal width ~~greater~~ shorter than a length of said  
3       substrate;

4           a pair of electrodes disposed on said substrate ~~and~~, said pair of electrodes  
5       being disposed on both end portions of said substrate along said ~~extending to~~  
6       ~~opposite edges of said substrate along said longitudinal width; and~~

7           a resistor element disposed between said pair of electrodes, said resistor  
8       element comprising side sections, each of said side sections connected to each of  
9       said pair of electrodes along a substantial portion of a length of said pair of  
10      electrodes along said width, and

11          an S-shaped section disposed between said side sections, said S-shaped  
12      section being free of a trimming ~~trimmed~~ portion.

1           6.       (Twice Amended) A method of manufacturing a resistor comprising  
2       the steps of:

3           forming a pair of electrodes on a substrate; and

4           forming a resistor element between said pair of electrodes, said resistor  
5       element comprising i) rectangular side-sections connected to each of said pair of  
6       electrodes along a substantial portion of a length of said pair of electrodes along a  
7       width of said substrate and ii) a S-shaped section disposed between said side  
8       rectangular sections, said S-shaped section being free of ~~trimmed~~ a trimming  
9       portion.

1           11.      (Twice Amended) A resistor comprising:

2 a substrate having a longitudinal width ~~greater~~shorter than a length of said  
3 substrate;

4 a pair of electrodes ~~above~~disposed on said substrate ~~and, said pair of~~  
5 electrodes being disposed on both end portions of said substrate along said  
6 extending to opposite edges of said substrate along said longitudinal width;

7 a resistor element situated between said pair of electrodes, said resistor  
8 element including:

9 a pair of side sections, each of said side sections connected ~~coupled~~ to a  
10 respective one of said pair of electrodes along a substantial portion of a length of  
11 said pair of electrodes along said width, and

12 an S-shaped section situated between said pair of side sections;

13 wherein a width of said S-shaped section along said length of said substrate  
14 is less than a width of each of said side sections along said length of said  
15 substrate.